

a5  
--The monolith 12 itself is divided into a multiplexing layer 34 and a beam-splitting layer 36. As indicated by the dashed line in FIG. 1, these two layers are not joined or affixed to each other. The multiplexing layer 34 and the beam-splitting layer 36 are part of the same monolithic structure in much the same way that the individual transistors of an integrated circuit are part of, or integral with, the same silicon crystal. The multiplexing layer 34 extends from the rear face 14 to the beginning of the beam-splitting layer 36 in the interior of the monolith 12. This multiplexing layer 34 has opposed first and second mirrored interior faces 35, 38, best seen in FIG. 3, that are perpendicular to the rear face 14 of the monolith 12. --

On page 6, please amend the paragraph beginning on line 1 to read as follows: /

a6  
-- FIG. 3 shows a cross-section obtained by slicing the multiplexing layer 34 along the xy plane. The first interior face 35 has a first facet 40 that is coplanar with the reference face and a second facet 42 that makes an obtuse angle with the first facet 40. The second interior face 38 is punctuated by a plurality of output couplers 44a-d (designated generally as 44) arranged along a line extending parallel to the rows in the array of retro-reflectors 28. The number of output couplers 44 on the second interior face 38 corresponds to the number of such rows. --

On page 7, please amend the paragraph beginning on line 25 to read as follows: /

a7  
--The beam-splitting layer 36, shown in the cross section of FIG. 5, is bounded by the I/O face 20, the reference face 18, the measurement face 16, and by the multiplexing layer 34. A corner reflector 58 is mounted on the I/O face 20 and oriented to direct intermediate beams 50 (shown in FIGS. 6 and 7) emerging from the output couplers 44 into the beam-splitting layer 36. FIGS. 5 and 6 show an intermediate beam 50a exiting the output coupler 44 in the -x direction and being reflected in the z direction by a rear facet 60 of the corner reflector 58. A front facet 62 opposite the rear facet intercepts intermediate beams 50 traveling in the z direction and reflects them in the +x direction, into the beam-splitting layer 36 of the monolith 12. --

On page 8, please amend the paragraph beginning on line 20 to read as follows: /

a8  
--The input beam 48 of the interferometer 10 includes two orthogonally polarized components: a reference component and a measurement component. As these components traverse the monolith 12, they lose and then recover their original polarization states.

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End

For example, upon entering the beam-splitting layer 36, the reference component has a first linear polarization (the "P" polarization). This polarization is identified by the straight line within the corner reflector 58. As it traverses the monolith 12, the reference component becomes orthogonally polarized ("S" polarized). This portion of the reference component is identified by the wavy line in FIG. 6. Before it finally exits the monolith 12, the reference component recovers its original polarization, which is shown by the straight line exiting the monolith 12.

Similarly, the measurement component enters the beam-splitting layer 36 with a second linear polarization (the "S" polarization) orthogonal to the P polarization. This polarization is identified by the wavy line in the corner reflector 58 of FIG. 7. As it traverses the monolith 12, the measurement component becomes "P" polarized. This portion of the reference component is identified by the straight line in FIG. 7. Before it finally exits the monolith 12, the measurement component recovers its original polarization, which is shown by the wavy line exiting the monolith 12. --

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On page 8, please amend the paragraph beginning on line 25 to read as follows:

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--FIGS. 6 and 7 show the paths followed by the reference component and the measurement component of the intermediate beam 50a lying in the plane that intersects the bottom row of retro-reflectors. The polarization states of these components shift at certain points along their respective paths through the beam-splitting layer. The shifting polarization states of these components are identified by the straight and wavy lines used to designate certain portions of their paths. The reference and measurement components sometimes traverse the same portion of their respective paths twice, in different polarization states. For clarity, these portions of the paths are shown as being slightly displaced from each other. However, this displacement is shown only to facilitate understanding the operation of the beam-splitting layer 36. In fact, the component is retracing the same physical path, but with different polarization states.--

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**In the drawings:**

Please replace FIGS. 1, 3, and 5-7 with the attached FIGS. 1, 3, and 5-7. ✓